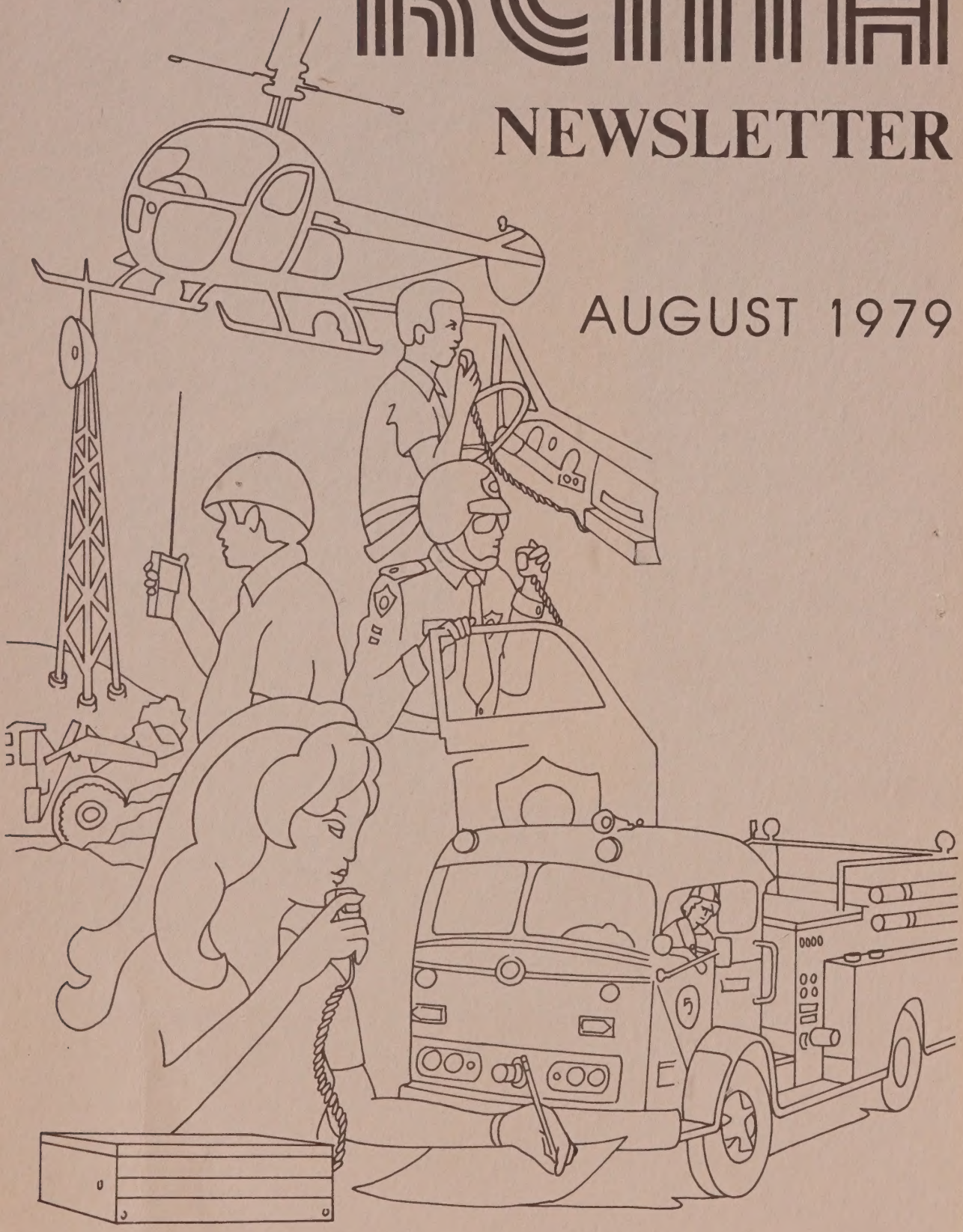
RCMA

NEWSLETTER

AUGUST 1979



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FOR YOUR INFORMATION

1. All club business, unless otherwise noted, must be addressed to: RCMA, P.O. Box 4563, Anaheim, CA 92803. This includes matters that relate to renewals, changes of address, Newsletter delivery problems, etc.
2. Input to the RCMA Newsletter must be mailed to the proper editors whose addresses are included in the column headings. If in doubt or if no particular column seems to be appropriate, send it to: RCMA, P.O. Box 4693, Riverside, CA 92514. Please do not include matters of club business.
3. RCMA Newsletter back issues (reprints) - For information and prices send a self-addressed, stamped envelope to: RCMA, P.O. Box 4693, Riverside, CA 92514.
4. To forward a letter to a specific RCMA member whose address you do not know, put your message to that person in a stamped envelope with your return address in the upper left corner. Put this and your instructions for remailing in another envelope and mail to: RCMA, P.O. Box 408, Earp, CA 92242.
5. It would be appreciated if you would include your RCMA membership number with all correspondence to the Newsletter Editors or to Headquarters.
6. If you require a reply when writing to RCMA Headquarters or one of the Editors you MUST include a self-addressed stamped envelope.
7. Please write only on one side of the paper.
8. Please do not combine in one letter items that should go to different addresses.
9. If you are inclined to type what you submit to the Newsletter, please use a 6-1/4 inch column width with 1-1/8 inch margins on each side and single space. Doing this may save an editor from having to retype the material. Please do not use "*script*" type.
10. Your RCMA membership number and expiration date appear on your Newsletter mailing label.
11. Your copy of the Newsletter should arrive between the 2nd and 3rd Friday of the month for which it is dated.

The RCMA Newsletter is published monthly by the members of the RADIO COMMUNICATIONS MONITORING ASSOCIATION, P.O. Box 4563, Anaheim, CA 92803. Subscription rate/membership fee is $8.00 per year for U.S. residents and $10.35 (U.S.) for persons in all other countries (dues subject to change).

Information contained herein is primarily obtained from members and does not necessarily present the position or reflect the opinion of the RCMA as a whole. The RCMA Newsletter editors and officers are not responsible for the accuracy or validity of information contained herein. Material and comments presented in the "Monitoring and the Law" column are not to be construed as legal interpretations or legal advice. Reproduction of any material in this Newsletter is authorized providing the source (RCMA) and the address are given (this excludes direct photocopying).

AUGUST 1979 ISSUE NO. 43

** Calendar **

AUG 17, FRIDAY, 8:00 PM — RADIO COMMUNICATIONS MONITORING ASSOCIATION
MERCURY SAVINGS & LOAN
VALLEY VIEW ST. & LINCOLN AVE., BUENA PARK, CA

The guest speaker will be a representative for Electra.

SEP 1, 2, 3 --- The National Radio Club annual convention will be held in St. Louis, MO. For information send a business size SASE to: Louis Buehler, 42 Jamestown, St. Peters, MO 63376. NRC is a fellow member of the Association of North American Radio Clubs. NRC members specialize in the reception of distant stations in the 540-1600 KHz mediumwave AM broadcast band.

SEP 9 --- New England Area DXers Outing is scheduled for Sep 9 at Black Rock State Park, Watertown, Connecticut. Many items will be on display that relate to the DXing hobby. Though advertised as an "all-wave" event, the majority of attendees will probably be shortwave listeners and DXers. For further information, send a business size SASE to: Sam Barto, 245 Cherry Ave. J-11, Watertown, CT 06795.

SAN DIEGO, CA RCMA meetings will be discontinued at Skip Sanders' (CA-SD-002) home due to lack of attendance. Should another person care to organize or host meetings in the San Diego area he should use the CONTACT column and/or call Skip.

Reports of Meetings and Officers

RECAP OF THE JULY 20, 1979 GENERAL MEMBERSHIP MEETING IN ORANGE COUNTY, CA

The scheduled GMRS demonstration and talk did not materialize. Also, the SBE "Select-A-Call" representative was unable to attend due to a conflict with vacation but instead the SBE Vice President, Skip Baker, flew down to attend our meeting. Besides talking about "Select-A-Call", he talked about the past, present and future of SBE regarding scanners. (SBE had planned to market a digital entry scanner but upon seeing the BC-210 decided for several reasons not to. They have no plans to manufacture scanners in the foreseeable future.)

After a meeting break, Gordon West, Managing Editor of "CB Magazine", talked about "CB Magazine" and its changing plans to emphasize scanner listening. Following this were discussions on miscellaneous topics.

Due to business commitments, the Secretary was unable to prepare the June RCMA Board Meeting Minutes in time for publication in this issue of the Newsletter. If you would like a copy of the minutes send a business size SASE and one extra 15¢ stamp to cover photocopying along with your request to: RCMA, P.O. Box 4563, Anaheim, CA 92803.

SUMMARY OF TREASURER'S REPORT
For Period Ending July 15, 1979

Balance as of June 15, 1979		$ 528.46
Received for membership:		
New members (48)	$376.00	
Renewals (25)	208.00	
Other received	25.75	+ 609.75
		$ 1138.21

Reports of Meetings and Officers (continued)

Expenses:

July Newsletter (printing,postage, etc.)	$ 454.21	
P.O. Box rent - 6 mos.	28.00	
The Personal Communications Foundation (membership)	25.00	
Officers' expenses	150.89	
Other	1.12	- 659.22
		$ 478.99

For a detailed report send a self-addressed stamped envelope and one extra First Class postage stamp to: RCMA, P.O. Box 4693, Riverside, CA 92514.

THE editor's column

Iden Rogers, P.O. Box 4693, Riverside, CA 92514

NEW RCMA SPECIAL INTEREST COLUMNS

In the July issue I tried to stir up some interest in starting and finding editors for an "FCC Topics" column, a "VHF Marine" column and a "Railroads" column. There already some prospective editors for these columns. However, if you think you might be interested in editing one of these columns, please do write. In some cases a column can be shared by two persons such as is the case with our "Satellites" column.

In addition to the three columns mentioned above, another has been enthusiastically suggested by Tony (NJ-005) and Eric (WA-002), a "News Media" column. I have mixed feelings about this. First, let me explain about the "Frequencies and Radio Systems" column versus the special interest columns. The "F&RS" column is and should be the largest and best supported column in the Newsletter. Two-way communications that are not unusual in nature should be reported in this column, like police, fire, highway patrol, highway maintenance, flood control, ambulances, etc. Specialized communications that use entirely different frequency ranges or a different "language" on the air should be treated separately, such as satellites, aircraft, railroads and VHF marine. Federal gov't. and military are also specialties that can benefit from being treated separately.

The question is --- Is news media enough of a specialty to warrant a separate column with a separate editor? The F&RS regional editors can handle such listings without difficulty as I see it. If you, the members, want a "News Media" column I'll be more than happy to try to get one started, but you must let me know. If I don't receive at least 30 letters or cards (about 4% of the membership) expressing interest in the column and including brief ideas for such a column, I would be reluctant to try to start it. Also, if anyone would like to edit such a column, please write.

What is **news** media? In this context it refers to the behind-the-scenes two-way radio communications used by newspaper reporters and radio and TV stations. It commonly consists of reporters and/or camera crews on a news scene or on the road or in helicopters or planes talking with their station or office. News media listening can put a person in touch with top news stories before they are released to the public.

From TONY (NJ-005): I'd like to see a column devoted to NEWS MEDIA established and appear on a regular basis in the newsletter. In the New York City area, remote broadcast pick-up and relay press frequencies offer some of the most exciting listening. Many broadcasters and newspapers, as

well as news services such as AP and UPI, seem to find out about breaking new stories even before emergency equipment is dispatched to the scene (I suspect that "tipsters" are stationed in "911 rooms", airport control towers, etc.). I for one would like to know more about how the NEWS MEDIA goes about gathering and reporting the news. I'm sure scanners are used as well as very sophisticated two-way radio and microwave equipment. I recently made a cursory check of the latest membership directory and found that several of our members have NEWS MEDIA related occupations. Perhaps one of these gentlemen/ladies would be best suited for the job of NEWS MEDIA editor because of their expertise. How 'bout it someone? Please contact Iden through the Riverside P.O. Box if you're interested in a challenging assignment.

RCMA MEMBERSHIP DIRECTORY

Due to the rapid and continuing growth of the RCMA, preparing and updating the Membership Directory has become an extremely time-consuming task. Therefore, the Board of Directors has decided to discontinue it in the future. However, a last edition which has already been started may be completed. As work is done on the directory it will be sent out with your Newsletter in installments at no extra charge. The first installment (listing members from Alabama through the beginning of Orange County, California) was sent out a few months ago. Extra copies of this are not available. It is unknown if and when the next installment will appear. The person working on it has given no indication. If the directory is completed it will contain no members who joined after May 1979. RCMA informational literature no longer mentions offering a directory to the membership.

In lieu of the directory, the "CONTACT" column in the Newsletter can serve much the same function. If you want to meet or correspond with other members or organize meetings in your area, please use the "CONTACT" column.

NEED FREQUENCY INFORMATION? HAVE FREQUENCY INFORMATION TO OFFER?

The Frequencies and Radio Systems (F&RS) column is divided up into regions. Each region has (or will have) its own regional editor. The headings for each regional editor's part of the F&RS column consists of the states for which he is responsible.

If you have a question about frequencies in a particular state (about systems not covered in the special interest columns) send it to the proper regional editor. He may or may not be able to answer your question. If he can he will answer it in the Newsletter in order to benefit other members. It could take two months to appear. If the regional editor cannot answer your question he will publish it in hopes that a member will write in with the information which will in turn be published.

If you have frequencies and radio systems information to contribute, please send it to the proper regional or special interest editor.

(continued on page 30, bottom)

Members who live in or around Anaheim who would like to get together for interesting conversation while preparing the Newsletter for mailing after it comes back from the printer, please contact Jerry at 772-1259. Any assistance would be appreciated.

MONITORING & THE LAW

Bob McGovern, Editor

Send all articles, references, copies of monitoring laws and questions pertaining to the legal aspects of monitor radio listening to: RCMA, P.O. Box 5041, Lighthouse Pt., FL 33064.

NEW JERSEY MONITORING

The editor of this column has determined that mobile monitoring in New Jersey may be hazardous to your liberty and checkbook. Unfortunately, that state has one of the most extreme anti-monitoring laws on the books.

New Jersey State Statute 2A: 127-4 Installing short wave radios in automobiles without permit; police excepted reads as follows:

"Any person who installs or has in any automobile, a short-wave radio receiver operative on frequencies assigned by the Federal Communications Commission for fire, police, municipal or other governmental uses, is guilty of a misdemeanor, unless a permit has first been obtained from the chief of the county police, or from the chief of the police of the municipality, wherein such person resides. This section shall not apply to any fire, police, or other governmental official of the state or of any county or municipality thereof."

The punishment provides a fine of up to $1,000 and a term of imprisonment up to THREE YEARS.

In State v. Smith, 130 N.J. Super. 442, 327 A.2d 462 (1974)it was said that "interest in avoiding interference with police, fire, and other governmental agencies in carrying out their functions and making it more difficult for those engaged in illegal activities to become aware of their detection justified enactment of this section making it a misdemeanor to have in an automobile a radio receiver operating on frequencies assigned for fire, police, municipal or other governmental uses."

It has also been said that the law does not violate First Amendment right to freedom of speech; a person does not have a constitutional right to be a party to communications transmitted on such frequencies.

Unfortunately, efforts to alter this law have failed, however; the last effort to change it, is noteworthy. New Jersey Senate Bill N umber 729, introduced on 1/26/78, passed the Senate by a 35 to 0 vote on 3/02/78, and the Assembly by a 63 to 3 vote on 6/26/78 was sent to the governor and his negative reply came on 5/3/79. In his veto message, the governor emphasized the negative aspects and not the positive. Governor Brendan Byrne said, "The stated purpose of this legislation is to encourage licensed individuals possessing short-wave radios in their automobiles to help during civil emergencies." By this comment, he was referring to licensed amateur radio operators only. He further stated, "In reality, the presence of well-meaning

or curious individuals at accident or emergency scenes more often than not hinders the operation of the authorized emergency personnel. I believe it would not be in the best interest of our citizens to encourage and facilitate the presence of such individuals at those critical situations. In addition, the possibility exists that the criminal element in our society will take advantage of this bill to monitor police activity from automobiles and thereby gain advantage in their illegal enterprises."

It seems more logical to prohibit the direct interference with police and fire personnel at emergency scenes, rather than ban the hobby type listener, which all of us are or should be. As for using a monitor while engaged in criminal activity, it seems appropriate to penalize the criminals with severe punishment, rather than restrict the pure hobbyist type of listener. Would it not be more beneficial to have citizens who hear a wanted broadcast and then call the proper authorities, than ban the total use as the governor has effectively done? The State of Oklahoma has an appropriate solution to the above.

UNLAWFUL MONITORING IN OKLAHOMA

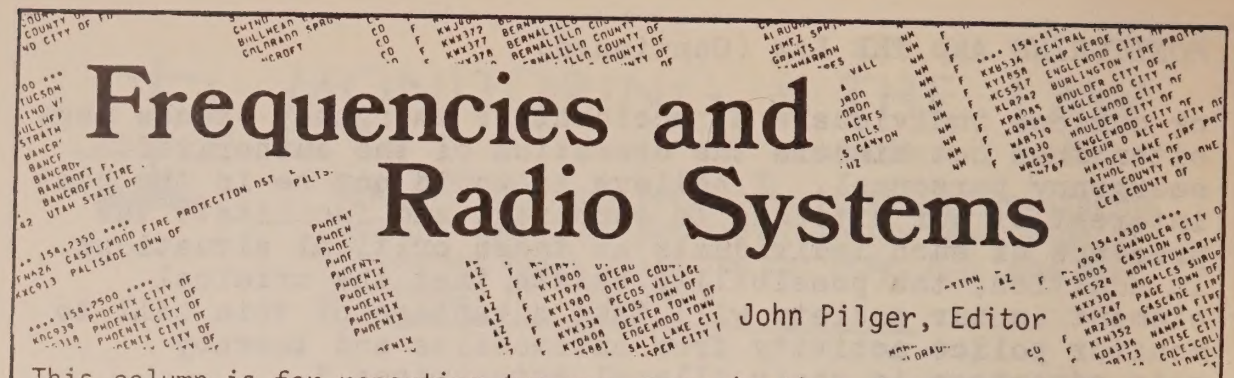
Under section 1224 of their state code, "it is unlawful for any person to operate a mobile radio capable of receiving transmissions made by any law enforcement agency for illegal purposes or while in the commission of a crime and not otherwise and any person violating the provisions shall be guilty of a felony and upon conviction thereof shall be punished by imprisonment in the penitentiary for not more than three years, or fined by not more than five thousand dollars, or by both."

The above is a very well-written law and also includes situations where persons travel to and while there, interefere with police and fire personnel at emergency scenes. Perhaps, New Jersey should read Oklahoma's law and attempt to change their current statute while keeping in mind the beneficial aspects of citizens who hear a BOLO or wanted broadcast, and then who promptly report their sightings of the wanted subject or vehicle to the police. Ordinary citizens can be and should be the eyes and ears of law enforcement agencies.

MAIL

The quantity of mail being received is not exactly overabundant as only two letters were received during the month of June. Special thanks goes to RICK (NJ-001) who provided information on the New Jersey proposal and the governor's comment. KEEP THE MAIL FLOWING AS THIS IS YOUR COLUMN.

HAPPY LISTENING!!!!



Frequencies and Radio Systems

John Pilger, Editor

This column is for reporting two-way communications frequencies above 30 MHz EXCEPT those belonging in special interest columns such as Aircraft, Low Band Skip, Military, Federal Gov't., Satellites, etc. Members are also encouraged to submit info about radio codes, dispatch areas, unit numbering systems, overall radio system details, repeater locations, point-to-point links, newspaper and magazine clippings and questions consistent with the subject matter of the column. Submissions pertaining to particular geographic areas must be sent to the proper regional editors. Material that is general in nature should be sent to: John Pilger, P.O. Box 109, Fort Meade, MD 20755.

As we enter the third issue of the Newsletter with the new Frequencies and Radio Systems (F&RS) column, we find we are able to present you, our readers, with more and more information to make your scanning more interesting. We would like to hear from you about this column, though, telling us what you like, what you don't like, and what you are waiting to see. Please send your general F&RS comments to me at: P.O.Box 109, Fort Meade, MD 20755. If you would like to call me, I am generally home after 1900 (EDT) at (301) 621-9544.

As we have mentioned in past Newsletters, we need a steady flow of contributions from our readers to make F&RS work. Send your system information to the regional editor covering your area or, in the case of a region without an editor, send it to me. If you have questions, send them to the regional editor for answers. But by all means, write your editors...it's the only way we can continue to generate enough data to sustain this column.

We are still in need of regional editors. You will note on the regional headings that some of them are not yet filled. There is a new region, just established, for which we are seeking an editor. Tentatively, the new region will cover the states of Alaska and Hawaii and all areas outside the continental United States, excluding Canada. If you are interested in taking on this editorship, please drop me a typed note outlining your interest and telling me something about yourself. This may well prove to be one of the most difficult editorships since, to the best of my knowledge, there are few, if any, readily available frequency lists covering areas outside the continental United States.

CT MA ME NH NY RI VT

Richard Barnett, Regional Editor
P.O. Box 428 .
Newton Highlands, MA 02161

Hello! It is really a pleasure to be the regional editor for the the New England states and New York as I have studied and written many books on radio systems in the area. Up until this time, my main interest has been with the states of Massachusetts, New Hampshire and Rhode Island, so for you members in Maine, Connecticut,(Vermont) and especially New York, I truly need anything that you can give me so as to make this column interesting for all the members in the region. Most important would be the statewide systems, but local data could be synthesized into an interesting article too. Please send your information to:

Richard Barnett, Post Office Box 428 Newton Highlands, Mass. 02161.

As I have not yet received any data from area members, I have decided that in this first column I will stick with my real expertise: The radio systems in the Boston Metropolitan area. The following will be a general overview of major systems around Boston. In future articles I shall give much more in-depth data on individual networks. This time I will only have room for mostly police data.

In the Boston metropolitan area, the past few years have seen a remarkable change in the frequency status of almost all Police departments. In the city of Boston, the 460 MHz channels are used for just about all police operations. If you happen to take a trip to my favorite metropolis, just set your scanner on search through 460 and 460.500 and you'll be sure to hear all of Boston's police activity. If it's fire you're interested in, the channels for you would be 33.74 for apparatus and chiefs with 453.65 as Dispatch.

The immediate suburbs of Boston all have switched to an excellent new radio system called BAPERN. This stands for Boston Area Police Emergency Radio Network, and although there are some bugs that still must be worked out, this network should end up as a model for many of the nation's new police radio systems. Again, an easy way to monitor this system of the local Boston suburbs would be to set your set on search an go through 470.3125 to about 471.8375. In this range there are not only the local community operating channels, but also on 470.7875 and 470.5625 there are the system-wide intercity channels where all area riots, parades, marathons and chases are re-broadcasted from any area police department, whether Boston on 460, or the State Police on 42.34. The BAPERN systems also utilizes North, South and West district channels of 470.4875, 470.-9125 and 470.7375 respectively. Another backup intercity channel for many parts of all of New England is 158.970.

The suburbs that are not in the immediate area, such as the towns between the New Hampshire line and communities on BAPERN, utilize the newly allocated 482 MHz channels. Once again, just searching 482 through 483 will let you in on all the action. This is also true of the communities to the far south, and southwest of Boston. They are all on the 482 through 483 run of frequencies. To the west, the farther suburbs are all on channels between 39 and 40 MHz. There are only a few exceptions to all these rules, so monitoring police in the metropolitan area is fairly easy, if you have the proper antenna equipment to receive the many Ultra High frequencies.

Again, in the future, I shall have the regular frequency lists, not so much the explanatory information as you just read, unless I hear otherwise. I shall also list all other service data; but I DO NEED YOUR HELP!

DE MD NJ PA

Chuck Gysi, Regional Editor
P.O. Box 216, Willow Grove, PA 19090

Welcome! This column is intended for our members in Pennsylvania, New Jersey, Delaware and Maryland. Also, I hope that information in our column will help those traveling through our region in listening to various agencies on their communications gear.

I would like to introduce myself to our mid-Atlantic members. My name is Chuck Gysi (PA-005) and I am in my second year as an RCMA member. The town that I live in, Willow Grove, is in Montgomery County, PA, and is located about three miles outside of the northeast section of Philadelphia. I am 21 and am a journalism student at Temple University and anticipate graduation in December. Also, I am the wire news editor for Today's Post and Today's Spirit newspapers in Valley Forge and Hatboro, PA respectively. I have been a member of our area's paramedic/rescue squad for six years and usually drive our ambulances. I am also certified as an emergency medical technician (EMT).

My main monitoring activities involve federal government channels. Also, I search out uses of local government channels and monitor almost all radio services from news media to business band. I currently have a list of every two-way radio licensee for the five-county PA area of Philadelphia (Delaware, Chester, Bucks, Montgomery and Philadelphia counties). If you are having trouble locating a licensee, let me know and I might be able to help out.

Luckily, I live on one of the highest hills in the area and is the highest hill in Montgomery County (430 feet above sea level). Other than interference from high-band transmitters two blocks away, it's nice to live up high when it comes to monitoring. Because of my location, I am able to monitor almost all of southeastern Pennsylvania, central and southern Jersey and a lot of northern Jersey, Delaware and Maryland when the conditions are right. Because of this, I intend to try to monitor channels that you send into me where practicable before I publish them in this column. My gear currently consists of a Regency Touch (16-channel) with a high-band ground plane on the roof and a 20-channel Regency crystal unit that I use in the car and office at night.

Enough about me and on with the column. I hope that all our members in the region send me information that they have available. There are more than 40 members in the region and I would hope that each and every member contributes. I also really hope that our members in western Pennsylvania will

contribute as I am at a loss for details from there. Please send the information in RCMA format if possible, although it is not necessary. Not only do I wish to have frequencies and channel usage information submitted, but I also wish to receive details on radio codes and unit numbering systems. Please don't copy lists out of Police Call unless you can add information such as the frequency is used by detectives or a local government channel is used by fire vehicles, etc. I'll try and get all your information published, but don't fret if you don't see it right away. For those that may be interested, I'm planning to set up a Dial-A-Frequency using my telephone answering machine. The service would operate probably one day a week over the weekend and would provide updates on new frequencies, radio codes etc. If you would be interested in this, let me know. Once again, please send in any frequencies that you have that may be of interest, especially business licensees. In future columns, I would like to cover such listings as shopping malls security, news media, schools, etc. Also, members in north Jersey, please don't send me information on New York City systems. Please route that to the proper editor.

Since we don't have any submissions from members for this month's column, I will include information that may be of interest.

The Philadelphia Fire Department has changed a few things around. A new repeater has been put on the air on 154.145 and this frequency is used for dispatch north of Girard Avenue. The old dispatch channel, 154.235, is now dispatch south of Girard Avenue. The two channels are called "north band" and "south band" respectively. The channel, 153.95, formerly called F-2 is now called the "emergency band." 170.15 is still rescue and 153.83 are portables.

For those that monitor Newark, NJ's powerful repeater on 154.13 (KEC 989) for fire, the following codes are used:

100	Arson squad respond
200	Fatality
300	False alarm
305	Holding one engine
308	Holding one engine and one truck
309	Holding two engines and one or two trucks and one salvage unit
8	Working fire in multiple dwelling
11	Working fire
44	Death of fireman

Perhaps some of the following frequencies will be of interest to those traveling for the rest of the summer:

159.045	Pennsylvania Turnpike (northeast extension)
159.075	Pennsylvania Turnpike (east of Morgantown)
453.700	Atlantic City Expressway
453.900	Atlantic City Expressway
155.190	New Jersey Turnpike police
159.180	New Jersey Turnpike maintenance
154.905	Garden State Parkway police
156.120	Garden State Parkway maintenance

On the Pennsylvania Turnpike system, 150-series units (i.e. 151, 152, etc.) are ambulances. 300-series units (i.e. 383, 394) are state police and 200-series units (i.e. 239, 240A) are tow trucks. The turnpike's communications center in Harrisburg (KGI 78) is fed into repeaters along the turnpike by microwave link. Also each interchange operates into the repeater. Maintenance vehicles are 2000-series unit numbers (such as 2437, 2443, etc.)

Burlington County, NJ has a new T-band system employing many frequencies in the 500-503 MHz band. Does anybody have unit numbering system lists for these police channels? If so, I'd like to cover these frequencies and unit numbers in an upcoming column.

I tried to come up with some Delaware and Maryland frequency or codes information for this column but came up dry. I need your help. Please send me anything that you have that may be of interest to other members. With your input, this column will be a success for our members.

MI OH

Larry A. Smith, Regional Editor
1223 Vinsetta Blvd., Royal Oak, MI 48067
(313) 398-9797 7-11 PM Eastern Time
weekdays plus all day Saturday & Sunday

The News Media in S. E. Michigan may not be as large a network as compared with other larger states like Calif. and New York, but does make interesting listening on behind-the-scenes activities during a big news story.

Watching the 6:00 and 11:00 reports on T. V. seems too easy and too often too natural. Listening to orders being given by camera and news crews to the onethe-scene reporter(s) is enough to understand the pressures they have to sustain.

Some interesting services and frequencies in the Detroit and Windsor, Ontario areas, are:

	452.975	Detroit Free Press--REPEATER (Paper)
	453.000	Detroit News--REPEATER (Paper)
	161.700	WXYZ T. V. Ch. 7--REPEATER (DETROIT)
*	163.820	CBET T. V. Ch. 9--SIMPLEX (WINDSOR)
	166.250	WJBK T. V. Ch. 2--SIMPLEX (DETROIT)
	450.050	WJBK T. V. Ch. 2--REPEATER (DETROIT) (2nd Frequency)
	450.950	WDIV T. V. Ch. 4--REPEATER (DETROIT)

* Thanks to JERRY (CAN-006) for helping me with this frequency.

When late Fall arrives in Michigan and the wind is cold and damp, thoughts of what is to come enters the mind. Thoughts of driving on icy roads, snow covered roads which are at times slushy and dangerous and people gripe and groan on how terrible the roads are.

With the many varied interests we club members have on listening to what is REALLY happening, we don't seem to give a group of men and women credit when it is due and also don't think their conversations aren't too interesting, the county Road Commissions!!

Many times I have had to take another road because the main one I usually take was unpassable with snow. This is true with many people, a quite a few with scanners that would never think of listening to these type of calls. Give it try this Winter and you will see that there is alot going on elsewhere!!

The listings below are for eastern Michigan county Road Commissions. These departments all use Repeaters for the best of coverage and for the best listening for both sides of the conversations. The listings are for their Repeaters only. From left to right there is the frequency, the county name and the transmitter site. There are alot more than these but these are the ones I have found to be active.

150.995	BAY	(BAY CITY)
151.025	SAGINAW	(SAGINAW)
151.040	ARENAC	(OMER)
151.055	TUSCOLA	(CARO)
156.105	ST. CLAIR	(PT. HURON)
156.165	OAKLAND	(PONTIAC)
156.180	HURON	(BAD AXE)
156.180	GENESEE	(FLINT)
156.240	IOSCO	(E. TAWAS)
159.120	ALPENA	(ALPENA)
159.180	MACOMB	(MT. CLEMENS & WARREN)
159.180	OGEMAW	(W. BRANCH)
453.950	WAYNE	(DETROIT)

**********Please remember....If you are submitting material or if you have a question about a frequency or radio system, send the item to the regional editor covering that area.****

IA IL IN KS KY MN MO NB ND SD WI

Mike Redman, Regional Editor
P.O. Box 1177, St. Charles, MO 63301

This month I'll devote a large part of the column to the Missouri State Highway Patrol radio system. While I am far from an expert on their radio network, the information contained here is from my own monitoring, and if any of you have any additions or deletions, please write.

As you will see in this month's frequency contributions, the Missouri State Patrol is primarily a low-band system. Mobiles, aircraft, and weight stations follow this channel pattern:

F1	42.06 R/42.22 T	(Mobile to Base)
F2	42.06 R/T	(car to car)
F3	42.12 R/42.32 T	(Mobile to Base)
F4	42.12 R/T	(car to car)

Most rural departments/Sheriffs' offices monitor 42.06, and most Troops and most State Patrol mobiles monitor the statewide Sheriffs' Net of 155.730. It is not unusual to hear a State Patrol base call a city or county on 42.06 and have them respond on Point to Point (155.370), or direct on the Sheriffs' Net. Likewise, many Sheriffs' Offices will call a State Patrol mobile on 155.730 and monitor his direct response on 42.06. Along with 155.730, most State Patrol mobiles have scanners containing local police frequencies, and all have CB radios. It's a fairly simple but highly efficient radio net. Only base stations have transmit/receive capability on 155.475.

Here are some corrections to frequencies that appeared in the May Column; comparison will reflect the correction:

COFD	N. St. Louis Co.	Dispatch	T3	KBG256	B/M	154.325
COFD	N. St. Louis Co.	Admin.		KYY837	R	460.600
FD	Pacific	Disp/Fire Gnd.		KAJ332	B/M	154.370

St. Charles Co. Mo.:

SO	Dispatch	F1		R	155.490
SO	Control/Mobiles	F1	WCH766	CO/M	156.150
SO	Car to Car	F2	KXZ736	B/M	155.730
SO/CD	Civil Defense/Car to Car	F3		R	155.835
SO/CD	(also F3 for Fire & Ambulance)	F3	WBH987	CO/M	153.920
SO	Backup (direct)	F4	KXZ736	B/M	155.490
FD	Dispatch	F1	KDO243	B/M	154.445
FD	Mutual Aid	F2	KDO243	B/M	154.280
AMB	Dispatch	F1	KZO390	B/M	155.940
AMB	Ambulance to Hospital(St.Charles)	F2	KRS302	B/M	155.160
AMB	Ambulance to Hospital	F4		M	155.340
AMB	Ambulance to Hospital			M	155.220
PD	St. Charles City		KAA217	R	453.800
PD	St. Charles City Car to Car		KAA217	M	453.800
PD/FD	St. Peters		KKD426	B/M	155.310
PD	O'Fallon		KXZ610	B/M	154.785
PD	Wentzville		KUS658	B/M	155.070
PD	Lake St. Louis		KOM415	B/M	159.150

F&RS - IA,IL,IN,KS,KY,MN,MO,NB,ND,SD,WI (continued)

Most of the municipalities in St. Charles County shown have the capability to access the CD channel 155.835, as well as fire and ambulance, all with repeater access on 153.920 as shown.

From DAN (ND-001): North Dakota:

HP	Statewide	Dispatch/Mobile	F1	BR/MR	154.905
HP	Statewide	Dispatch/Mobile	F2	BR/MR	154.935
HP PD SO	Statewide	Dispatch/Mobile	F3	B/M	155.430
HP PD SO	Statewide	Dispatch/Mobile	F4	B/M	155.505
HP PD SO	Statewide	Mutual Aid	F5	B/M	155.475
HP PD SO	Statewide	Intercity	F6	B	155.370

Minnesota:

HP	Statewide Radar/Aircraft Bulletins	F1	B/M	42.880
HP	Minneapolis/St. Paul Area	F2	B	42.920
HP	Minneapolis/St. Paul Area	F2	M	42.660
HP PD	Interdepartment	F3	B	155.370
HP PD	Mutual Aid/Emergency	F4	B/M	155.475
PD	Minneapolis Northside Base	F1	BR/MR	460.100
PD	Minneapolis Southside Base	F2	BR/MR	460.025
PD	St. Paul West Bulletins	F1	BR/MR	460.050
PD	St. Paul Primary	F2	BR/MR	460.150
SO	Hennepin SO (Minneapolis)	F1	BR/MR	155.610
SO	Ramsey Co. SO (St. Paul)	F1	BR/MR	154.770
FD	Minneapolis	F1	BR/MR	154.340
FD	St. Paul	F1	B/M	154.130

Thanks Dan, remainder of this month's frequencies from Editor:

SEC	Six Flags over Mid America(Eureka)		R	464.325
SEC	Six Flags over Mid America	3 watt	M	154.600
HP	MO. Troop A Lee's Summit	KAA202	B	42.060
HP	MO. Troop A Lee's Summit 'Metro'		B	42.120
HP	MO. Troop B Macon	KAA201	B	42.060
HP	MO. Troop C Kirkwood	KAA203	B	42.060
HP	MO. Troop C Kirkwood 'Metro'	KSR937	B	42.120
HP	MO. Troop D Springfield	KAA243	B	42.060
HP	MO. Troop E Poplar Bluff	KAA270	B	42.060
HP	MO. Troop F Jefferson City	KAB302	B	42.120
HP	MO. Troop G Willow Springs	KAA522	B	42.060
HP	MO. Troop H St. Joseph	KAA204	B	42.060
HP	MO. Troop I Rolla	KAA958	B	42.060
HP	MO. Troop E Sikeston 'Satellite'	KAB675	B	42.120
HP	Mobiles to 42.06: 42.220; Mobiles to 42.12: 42.320			
HP	MO. Troop to Troop		B	42.380
HP	MO. Car to Car (stations using 42.06)		M	42.060
HP	MO. Car to Car (stations using 42.12)		M	42.120
HP	MO. Mobile Extender, input of 42.22		R	154.695
HP	MO. All Base Stations Mutual Aid		B	155.475
HP	MO. All Base Stations Intersystem		B	155.370
HP	MO. Fire Marshall/Water Patrol, above and		M	155.730
HP	MO. Mobile Extender, input of 42.22		R	154.920
SO	MO. Sheriff's Net, Statewide		B/M	155.730
SO	MO. Sheriff's Net, Statewide		M	156.150

DC FL GA NC SC VA WV AL AR LA MS OK TN TX

RCMA Regional Editor
P.O. Box 270294, Tampa, FL 33688

Another month and another deadline has rolled up and almost by. There has probably been some interesting listening due to our fuel problems. In my immediate area we have had some emergency command posts set up with police and national guard to protect operating trucks. Scanning can be very useful these days if only to know places to avoid.

I got a letter from David Beck (AL-001) with a nice list of freqs from Alabama. I didn't have time to get it typed by deadline so you will have to wait till next month. He corrects me on the WERC freq I made note of in the June Newsletter. He says that their 455.050 channel is simplex and that he has heard nothing on 450.050. This is a little unusual and worth making a note of, as possibly other stations in other areas might operate this way. As most of you know, in uhf systems paired frequencies are allocated. The lower of the two is used by the base or as a repeater output. The higher freq is used by the mobiles and control stations. Mobiles and controls often have the option of transmitting on the lower freq as well as the upper so they can talk without tying up the repeater or when they are out of range of the repeater. The higher freq is the input for the base or repeater. The lower freq is the output of the base or repeater and therefore the receive freq for the mobiles and control stations. This is why I thought that it should be possible hear WERC on the lower freq. I got the freq of one of my local stations the same way, by discovering the upper freq and subtracting 5mhz, the standard difference in this part of the band. Thanks again for th info David, do also appreciate the encouragement.

The Tampa Police Dept. is a reasonably well equiped urban agency with about 600 officers serving a city of 270,000. Its communications are essentially tied to the use of portable radios, the GE PE series with vehicular chargers and amplifliers for use when in the car. These radios are mainly 4 watt, though there are a few low power ones with 2 watts. They can handle 8 channels, but only 6 are available. There are also some RCA 2 and 4 channel mobiles, but these are being phased out from patrol use; they mainly show up in administrative units and some detective vehicles. They are apparently being replaced by the GE portables.

Channel 1 (453.550) is used by Patrol District 1 on the south side of the Hillsborough river as well as the downtown area. You will hear Adam, Baker, Charlie, David, and Edward units on this channel. Each represents a squad of 10 officers. The full number might be 3Adam2. The 3 is for the shift (1,2, or 3) Adam is the squad, and 2 is the individual unit number.

Channel 2 (453.700) is Patrol District 2 on the north side of the river. These squads are Paul, Q, Robert, Sam, and Tom with the same id sytem as in D1.

Channel 3 (453.800) is used by administrative and Detective units as well as special events since it is the only channel that every unit in the city has.

Channel 4 is used by the vice and special enforecement units. I would rather not give out this freq as the TPD doesn't have a secure channel for this type of work (no scramblers). I would really hate to see a surveillance blown or an officer injured if this info went into the wrong hands.

Channel 5 (453.750) is used by D1 for wants and warrants checks, car to car use and as an alternate dispatch channel.

Channel 6 (453.875) is used by D2 for the same purposes as ch. 5 by D1.

Your best bets for monitoring will be the 2 patrol channels, with the capability to go to the others to follow events. Channel 2 is the busiest as it is the worst part of town. On a friday or saturday night, there is seldom a quiet moment. Since there are repeaters on every channel, you can hear everything that goes on. While there are some Kustom mobile computer terminals (about 2-3 per squad) these are only used for wants checks and some tactical communications, mainly car to car. All dispatching is done by voice.

AZ CO ID MT NM NV UT WY

REGIONAL EDITOR NEEDED!!!
If you are interested, please contact John Pilger, F&RS column editor.

CA OR WA (EXCEPT 7 SOUTHERN CA COUNTIES)

REGIONAL EDITOR NEEDED!!!

From BOB (CA-CC-005): I would like help, as a new member, with a rundown on the CHP systems statewide -- regions, channels and operational organization. A copy of "Signal 10-11: Manual For Monitoring The CHP" would be a big help, but it's apparently out of print and I can't even find the publisher. If someone could loan a copy, I'd photocopy and assure return. I would also like a rundown on the California Department of Forestry.

(Editor's note: A copy of "Signal 10-11" would be very helpful. It is not known if a revised addition is planned or not. You could try writing to Michael L. Foster, P.O. Box 111, Cypress, CA 90630. Be sure to include an SASE. IBR)

Southern CA

COUNTIES OF IMPERIAL, LOS ANGELES, ORANGE, RIVERSIDE, SAN BERNARDINO, SAN DIEGO & VENTURA

REGIONAL EDITOR NEEDED!!!

From MIKE (ID-001): I have a correction concerning frequencies published in the July Newsletter. Newport FD is 46.44 rather than 46.14. Also, the Harbor Department and Lifeguard use 45.40 as F2.

 (Last minute tip - see p. 33)

CANADA

Rory B. McEvoy, Regional Editor
12 Castlegrove Blvd., Unit 9
Don Mills, Ontario, M3A 1K8
(416) 449-4170 : 7-11 PM EST/EDT
weekdays and all day weekends

Greetings from Toronto, Canada!
As this is my first contribution to RCMA as Canadian Regional Editor I shall introduce myself briefly.
I am 38, happily married to a wife who tolerates and even encourages my craze for radios of all kinds, even to the extent of buying some of the gear for me, despite the "noise" it creates. We have three children; one already is showing interest in radios! I have been dx-ing since I was 14 but only became interested in above 30 mhz when I came to Canada in 1965. Apart from my shortwave gear I use a Regency Whamo 10 with DFS5K tuner and a home-brew out-of-band frequency controller as my primary gear. Additionally I use Realistic, Pro 20(Canadian model), Pro 16A and Pro 9 (crystal and tunable) along with a FLUKE frequency meter.

Now to the "meat" of the column. Firstly I wish to suggest that all Canadian material be channelled through this column. Canadian frequency allocations and laws pertaining to monitoring differ widely from that used in the United States and elsewhere.

In Canada most local law enforcement agencies tend to operate their radio systems on a special band between 138/144 mhz with 15 and 30 khz channelling, both in simple single frequency channels for simplex operation and more complicated two frequency channels for duplex operation. As an example, 139.770 mhz is a national simplex channel while 138.750 mhz (M) is paired with 142.770 mhz (B) as a national duplex inter-system channel. There is also some reason to believe that a government ssb-fm system exists on discrete split frequencies between 132 and 136 mhz. On this however no data or confirmation can be obtained. Another odd band in use here in Canada is 406/416 mhz, a range which appears to be popular in the Province of Quebec. The radios used in 1976 were reported to have been set on 411.---- mhz frequencies!

Legally in Canada we may be better (or worse) off than members in the U.S. since only the Canadian(federal) government may regulate the transmission or reception of radio communications. We do not have to worry about such things as state laws or local/municipal ordinances.
On this subject I must quash completely the idea that scanners are illegal in Canada. This is simply just not true. We do have 1974 "Protection of Privacy Act" which prohibits the wilful interception of a private conversation/communication where the parties concerned may REASONABLY EXPECT THAT THEIR CONVERSATION IS PRIVATE. There has been a conviction for illegal use of a scanner some months ago in Eastern Canada. On the other hand there have been acquitals where the accused had officials of emergency services testify that they knew their radio frequencies were being monitored and that their radio transmissions were made with this knowledge.

When conditions are right, stations on the Low Band (30-50 MHz) can be heard over distances of hundreds to thousands of miles. It is not unusual to hear emergency communications from several states away or from all across the country. Signals can sometimes be received from other continents. Conditions vary from hour to hour, day to day and month to month. Skip can be dead sometimes for weeks at a time and then will come alive, sometimes without much notice.

Skip reception causes many headaches for the users of these frequencies but can provide considerable entertainment for listeners. If you hear some good "catches", send in your loggings.

This form (on the other side) is for use by RCMA members in reporting reception of distant stations in the VHF Low Band (30-50 MHz). Send your loggings for publication in the RCMA Newsletter to the Low Band Skip editor whose address appears on the other side.

To make best use of this form, make several photocopies of it and use the photocopies to send in your loggings since these sheets will only occasionally be included in the Newsletter.

Please type or print clearly and include as much information as you can. The following will help you understand what type of information is being sought.

FREQ(MHz): The received frequency must be filled in. Examples are 39.82, 35.94, 33.76, etc.

CALLSIGN: Put in the FCC callsign when known, such as KMA 628, KCX 980, etc. Callsigns are often given on the hour and/or half hour or sometimes several times during the hour.

VERBAL I.D.: Not all stations use a verbal I.D. during their dispatching but many do. It can be helpful in identifying a station. Examples of verbal I.D.'s are, "Westend", "Los Angeles", "Control", "Station 17", etc.

SERVICE: Examples are, "police", "fire", "ambulance", "mobile telephone", etc.

BASE/MOBILE: Are you receiving the base station, the mobile unit(s) or both the base station and mobile unit(s)?

RECEIVER: Fill in the model of the receiver you use to pick up the signals. Examples are, BC-250, Regency Touch, Realistic PRO-2001, etc.

DATE: Fill in the date you received the station and/or mobile unit(s).

TIME: Fill in the time you received the station and/or mobile unit(s). Use your own local time in the 24 hour system and also include your time zone. Examples are, 0945 PDT, 1428 EST, etc.

STATION LOCATION: Fill in the city or county and state where the transmission originated.

DISTANCE: Put the distance in miles from the station to your location. This is not too hard to figure out but does require a map with a mileage scale on it. Use a ruler on the map to measure the distance between the station and your location and then use the map scale to determine the distance. If you are unsure of the distance, leave it blank or put a question mark after the distance. Examples are, 1800, 350, 2950, 750(?), etc.

RCMA #: You must put your RCMA number on each entry since the entries are cut into strips by the editor and put into numerical order by frequency. Also, you will note that when an entry appears in the Newsletter, the state where the station is, the distance and the member's RCMA number are close together on the same line. Example, CA 2100 OH-081. So, at a glance when looking through the loggings one can see the states on both ends of the signal path with the distance in between. This is made simpler because the RCMA number includes the listener's state. In the example, one can see that the signal originated in California and was received 2100 miles away in Ohio.

COMMENTS: Add appropriate comments, if any, that pertain to that particular station received.

There will be times when a station cannot be identified even after considerable effort. Reception of such a station can still be reported. Give as many details as possible and label it as an "unidentified station". It will then go in the "Unidentified Stations" section of the column. Any member who can identify an unidentified station is encouraged to write in with the information to the column.

(SEE REVERSE SIDE)

LOW BAND SKIP LOG SHEET

SEND LOGGINGS TO: MARK S. LUCAS, 723 E. MULBERRY ST., LANCASTER, OH 43130

FREQ.(MHz) _____ CALLSIGN _____ VERBAL I.D. _____ SERVICE _____

BASE/MOBILE _____ RECEIVER _____ DATE _____ TIME _____

STATION LOCATION _____ DISTANCE _____ RCMA # _____

COMMENTS:

FREQ.(MHz) _____ CALLSIGN _____ VERBAL I.D. _____ SERVICE _____

BASE/MOBILE _____ RECEIVER _____ DATE _____ TIME _____

STATION LOCATION _____ DISTANCE _____ RCMA # _____

COMMENTS:

FREQ.(MHz) _____ CALLSIGN _____ VERBAL I.D. _____ SERVICE _____

BASE MOBILE _____ RECEIVER _____ DATE _____ TIME _____

STATION LOCATION _____ DISTANCE _____ RCMA # _____

COMMENTS:

FREQ.(MHz) _____ CALLSIGN _____ VERBAL I.D. _____ SERVICE _____

BASE/MOBILE _____ RECEIVER _____ DATE _____ TIME _____

STATION LOCATION _____ DISTANCE _____ RCMA # _____

COMMENTS:

FREQ.(MHz) _____ CALLSIGN _____ VERBAL I.D. _____ SERVICE _____

BASE/MOBILE _____ RECEIVER _____ DATE _____ TIME _____

STATION LOCATION _____ DISTANCE _____ RCMA # _____

COMMENTS:

FREQ.(MHz) _____ CALLSIGN _____ VERBAL I.D. _____ SERVICE _____

BASE/MOBILE _____ RECEIVER _____ DATE _____ TIME _____

STATION LOCATION _____ DISTANCE _____ RCMA # _____

COMMENTS:

F&RS - Canada (continued)

This open admission by various authorities that they know their radio transmissions are intercepted and cannot be classed as "private" within the meaning of the act does actually prove in law that no offence occurred. No doubt somebody will ask "what about the guy who was convicted?". Well, this gentleman was intoxicated and speeding, and when stopped and checked by police they heard their CPIC(NCIC) check on the subject blast from his scanner! I am sure that we all would agree with this type of coviction.

A word now to CANadians, members or not. Please write and tell me about yourself, your equipment and what you listen to. Of course your frequency lists will also help. If you are a member I shall try to represent you and make our corner more interesting. Not a member? Well come on in and join now. The rate of US$8 is good only until the end of August. After that we must pay our (fair) way of US10.35. Existing members should also try to promote RCMA, your friends, local radio supply store. I am hoping to get some publicity about us and our hobby on a major Toronto radio station in the fall. More news later.

International

ALL AREAS OF THE WORLD OTHER THAN CANADA AND THE 48 CONTIGUOUS STATES OF THE UNITED STATES

REGIONAL EDITOR NEEDED!!!

CONTACT

A column devoted exclusively to the purpose of helping members contact other members. If you want to meet, telephone, or correspond with other members (by letter or cassette tape) in a certain geographic area or other members who have similar listening interests, this is the place to say so. Interested members will contact you directly so be sure to give your telephone number and best time to call and/or your address. Write to: RCMA, P.O. Box 4693, Riverside, CA 92514.

I am interested in contacting any members nearby for possible weekend get-togethers. Best time to call is after 11 PM, (919)-443-7282. My door is always open here at my location just a few blocks off Highways 195, 301 and 64. Also interested in exchanging cassettes, please write first. BILL COLEMAN, JR., 114 Circle Dr., Rocky Mount, NC 27801.

I would like to contact other Canadian members: MICHEL LECOMPTE, Box 33, St. Sauveur, Quebec City, G1K 6V7.

ANY OF YOU HAMS WANT TO START A NET? Over the past couple of years, several of the amateur radio members of the RCMA have discussed the prospect of an RCMA net for exchanging listening notes, frequency information, equipment hints, etc. over the air. Dave (AL-001 K4PBN) is one, and I am another (WA4PYQ). All in favor, say "HI"...via an SASE!

SATELLITES

Bill Blomgren & John Coker, Editors

Send information about satellite frequencies which you have received with type of traffic heard, orbital data, hobby receiving equipment and antennas and questions pertaining to satellite monitoring to: Bill Blomgren, 505 E. Mulberry, #3, Normal, IL 61761

On behalf of John (IL-010) and myself (Bill IL-020) let me say that we are pleased to be editing the Satellite column for the RCMA newsletter. Both John and I have been avid radio monitors for more than ten years but only recently have our interests turned toward satellite communications. For this reason we hope that those of you who are satellite listeners will help us by contributing to the satellite column and by correcting us when we make mistakes.

We will attempt to provide you with as much information as possible in the 30 MHz to 1700 MHz frequency range. This range represents what we believe to be the maximum usable area that can be monitored at a realistic price using current converter or direct monitor radio technology. For those of you who may have equipment capable of monitoring frequency ranges above 1700 MHz, we will from time to time be including frequencies up to 30 GHz. If any of you can offer tips on how to monitor the higher frequencies with a minimum investment we would like to hear from you. In a later column we will discuss equipment but we would like to hear more ideas first.

Many of you may not be familiar with satellite monitoring. To those of you who have never tried it, a word of warning. If you are hoping to be able to punch a few channels into your scanner and sit back and listen to the conversations from one of those "big repeaters in the sky" you may be disappointed. Generally satellite information is analog or digital data consisting of facsimile or computer type data. It is often multiplexed (several items on one carrier) or transmitted in wide bands from 100 KHz to over 6 MHz in width. Sometimes satellite information will be extremely narrow band or it may be wide band video or scrambled or inverted voice.

In order for the average RCMA listener to be able to understand satellite transmissions this information must meet the following conditions. First, the transmissions must be within the range of a standard converter or monitor radio. Second, the information being transmitted must be relatively narrow banded and not multiplexed. Third, it will be necessary for the information to be clear voice and not scrambled, and fourth, the transmitted signal must be of sufficient gain and often times directed right at your receiver in order to be detected. At this time we know of very few satellite channels which comply with these four requirements. If, on the other hand you are interested in obtaining weather facsimile pictures or merely listening to marker beacons or telemetry, you will not be disappointed.

During the coming months we will try to list all known satellite frequencies and bands. The actual use of these frequencies and in what part of the country they can be heard will have to be verified in most cases by the RCMA membership. We would encourage you to write in with any questions or information on satellites especially if you have heard one. If you write in, we would appreciate it if you would include the date, location, time, type of signal (voice or data), and any schedule of when the signal can be heard.

Starting next month we will be listing specific satellite frequencies that have been in use or are reported to be in use by NASA, the military, commercial users and others. You can also expect to see some information on OSCAR satellites in use by the radio amateur operators in the next few

months. For those of you who can search a band of frequencies, here is a list of the more common satellite ranges and what they are generally used for as described by the Federal Communications Commission and other agencies and groups.

STANDARD FREQUENCY ALLOCATIONS FOR SATELLITE USE

Frequency in MHz	User	Transmission Direction	Use
30.005- 30.015	G		Secondary use for satellites
32.000- 33.000	G		Secondary use for satellites
39.986- 40.020	NG		Secondary use for satellites
135.000-138.000	G,NG	Space to Earth	Telemetry and tracking
138.000-144.000	G	Both ways	Satellite mobile
144.000-146.000	NG	Both ways	Amateur satellites
148.000-149.900	G	Earth to Space	Telecommand
149.900-150.050	G,NG		Radionavigation satellites
154.200	G,NG	Earth to Space	Telecommand
157.3125-157.4125	NG		Maritime Distress satellites
161.9125-162.0125	NG		Maritime Distress satellites
220.000-399.900	G	Both ways	Satellite mobile
399.900-400.050	G,NG	Space to Earth	Telemetry and tracking
400.050-400.150	G		Standard frequency satellites
400.150-402.000	G,NG	Both ways	Telemetry and tracking
402.000-403.000	G,NG	Earth to Space	Meteorological satellites
406.000-406.100	G,NG	Earth to Space	Satellite mobile
406.100-420.000	G		Exact use unknown
435.000-438.000	NG	Both ways	Amateur satellites
449.750-450.250	G	Earth to Space	Telecommand
460.000-470.000	G	Both ways	Earth exploration sat. service
620.000-790.000	NG		Broadcast satellite service
900.000-960.000	G,NG		Secondary experimental use
1427.000-1429.000	G,NG	Earth to Space	Telecommand
1525.000-1535.000	G,NG		Telemetry and tracking
1535.000-1542.500	G,NG	Space to Earth	Maritime mobile
1542.500-1543.500	G,NG	Space to Earth	Maritime/Aeronautical mobile
1543.500-1558.500	G,NG	Space to Earth	Aeronautical mobile
1636.500-1644.000	G,NG	Earth to Space	Maritime mobile
1644.000-1645.000	G,NG	Earth to Space	Maritime/Aeronautical mobile
1645.000-1660.000	G,NG	Earth to Space	Aeronautical mobile
1670.000-1690.000	G,NG	Space to Earth	Meteorological satellites
1690.000-1700.000	G,NG	Space to Earth	Meteorological satellites

Terms:

Telecommand - Command and control messages sent from ground stations to a satellite to initiate, modify, or terminate functions of the equipment on board the spacecraft.

Telemetry - Radio data relating to the satellites operational status or data relative to measurements being taken by the spacecraft.

Satellite mobile - Any ground or air communications to a satellite while moving or which transmits from an unspecified point.

G - Government use of the frequency band.

NG - Non-government use of the frequency band.

NOTE:

The frequency bands described above are in many cases not exclusively assigned to satellites. These bands represent only those areas where satellite signals can reasonably be expected to appear. Other transmissions not related to satellites may also be heard.

MARKETPLACE

Members may advertise, free of charge, items wanted, items for sale and items for trade that are associated with the hobby of monitor radio listening above 30 MHz. No dealer ads accepted. Send to: Larry L. Miller, 2885 Quarry Rd., Amherst, OH 44001.

FOR SALE: Several crystal certificates, good for aircraft or public service. $3.00 each or 10 for $2.50 each postpaid. Whammo-10 and 200 combs, $100.00. Cashier's check or money order please. DAVID ESTILL, 2124 Lori, Wichita, KS 67207, (316)-686-2287. No collect calls please.

FOR SALE: Bearcat 4-6, Handheld and Bearcat 250 scanner. LAINE S. HERMAN, 8949 Lombard Place, #436, San Diego, CA 92122.

FOR SALE: Bearcat 210, approximately 1 year old, complete with all accessories and in excellent condition. $175.00. RON (CA-LA-060), (213)-344-8681, 6-10 PM.

FOR SALE: Realistic VHF-Hi Pocket-Scan, ni-cads, AC adapter and charger, 12 volt adapter, "rubber duckie" antenna, 4 crystal certificates. $75.00. Write: P.O. Box 270294, Tampa, FL 33688.

FOR SALE:
Regency ACT-R-10 H/L/U 10 channel scanner, with all base and mobile accessories. Make offer. Radio Shack UHF only 4 channel pocket scanner with rubber antenna. Used once, still in box. $50.00. RCA VHF Hi-Lo 4 channel pocket scanner, rubber antenna, carrying case. Make offer. Crystals: 42.88, 42.12, 42.34, 150.920. 155.205, 155.325, 154.310, 155.685, 158.970, 159.045, 159.090 - $2.50 each with radio purchase only. Contact: Laine Herman, 8949 Lombard Place, #436, San Diego, CA 92122. Telephone: (714) 455-1461 or (714) 452-8423 (Answering machine).

FOR SALE:
(1) Regency 10 Channel ACT-E-10 H/L/U scanner. 110 volts AC/12 volts DC. $60.00. Crystals extra @ $2.00 each. (2) Regency 4 Channel ACT-4-H/L/U scanner. 110 volts AC base station only. $45.00. (3) Lafayette 8 channel, "Monitorscan #5B-8", 5 band scanner. 110 volts AC, base station only. Uses Bearcat type 10.8 crystals. Covers Hi/Lo VHF, plus Hi/Lo UHF bands. $60.00 (4) S.B.E. 4 channel, UHF "SBE 10SM" pocket scanner. Covers 450-512 Mhz. Rubber antenna, belt clip. Uses 4 "AA" batteries. $50.00. (5) Ameco R-5 5 band tunable receiver. Covers from 0.5 Mhz to 50 Mhz. Receives VHF-Lo band, has built-in speaker, uses long wire antenna. $15.00. (6) Sonar F-12 tunable AM-VHF portable receiver. Receives 39-43 Mhz. Uses 9 volt battery, telescoping antenna. $12.50. (7) Patrolman 6 (Radio Shack) 6 band portable radio. Receives FM, Hi & Lo VHF, UHF (450-470 Mhz) and Aircraft bands. AM section is broken. $25.00 (8) Various Regency type crystals $2.00 each. Contact Eric J. Christensen, 2360 Brentford Road, San Marine, CA 91008, or phone (213) 284-9752 between 0800 and 2200 hrs PDT.

WANTED: Hello, I'm a new member in Canada and I am looking for a Bearcat 210 or 250 and a portable Bearcat 4/6 or 4/4 in good condition. I will pay in U.S. Dollars. Please write: MICHEL LECOMPTE, Box 33, St. Sauveur, Quebec City, Canada G1K 6V7. (Editor's note: Michel would probably prefer a response in French but English is OK.)

(continued on page 33, bottom)

FEDERAL GOV'T

Robert B. Grove, Editor

Send all non-military Federal Government frequencies, radio system details and related questions to: Robert B. Grove, Route 1-Box 156, Brasstown, NC 28902. Sensitive federal law enforcement frequencies will not be published.

This month, I thought I would take the bull by the horns (so to speak), and suggest an opportunity to a select number of members to receive (at actual cost sharing) a complete set of IRAC frequency lists.

As many of our members already have found out, all federal government frequency assignments are made through the Interdepartment Radio Advisory Committee, a division of the National Telecommunications and Information Administration, Department of Commerce. The assignments are coordinated with the Federal Communications Commission, and updated daily by computer.

The Master List is classified, and only classified sets of frequencies are sent to qualified agencies. Because of the Freedom of Information Act, unclassified frequencies are available to the general public on a cost basis. The cost for computer time is considerable, and very discouraging to most hobbyists who would like to have a complete reference file. There are over 144,000 discrete listings in the run, and the cost for a printed copy of the Master File can run as much as $2000! Microfiche, however, is considerably cheaper...by about half. Costs can be reduced even further by limiting the frequency ranges requested.

I have requested a detailed cost schedule from IRAC of several frequency ranges. If any members are interested in sharing the cost of a computer run, please write to me directly with your frequency preferences, enclosing an SASE. I will tabulate the shared cost for duplicating the set based upon the frequency ranges of greatest interest, and notify those members from whom I received an SASE. Ultimate cost per person for a microfiche set will probably be in the neighborhood of $100 (at this point, admittedly a wild guess, but it helps set some perspectives, anyway). The bulkier printed copy will be more, considering the cost of xerox processing. Membership comments are welcome.

All of us know the neat little trick of expanding frequency coverage of our programmables by using image reception. Unfortunately, there seems to be considerable variance among products as to the formula to use. Dave (AL-001) has noticed that none of the Bearcats uses the standard 10.7 MHz IF (like Regency uses). In fact, different products within the same series occasionally change IF's from 10.8 to 10.85 MHz. This is done for both economical and technical reasons. It is a tradeoff between cost and performance. To determine the IF formula for your scanner, tune in a strong 2-meter amateur repeater signal in the 146-148 MHz band, and then look for the image signal to repeat around 168 MHz. Subtract the two frequencies to determine the difference in MHz, then divide that number in half. That will be your receiver IF. Example: A strong ham repeater is heard in your area at 146.88 MHz. You hear the image at 168.58 MHz. The difference frequency is 21.7 MHz, therefore the IF of your Bearcat is 10.85 MHz.

Now you are prepared to use the information to program those elusive government channels in the 406-420 MHz range! Simply add twice your receiver IF frequency to the desired receive frequency, and program in the sum.

On a recent airing of the Phil Donahue Show, (June 20, 1979), noted Washington columnist Jack Anderson was commenting on a government surveillance of one of his journalistic investigations: "The CIA once had about 18 radio cars following us". (?!) Everyone knows that the CIA doesn't conduct domestic surveillance, and that they never use mobile radio, right? Any comments from members on this one?

A recent discussion with a Secret Service agent was most informative. Apparently, they were very dissatisfied with the Motorola digital voice protection system, and he says he expects it will be quite some time before digital encryption will be used by the Service.

With smuggling of drugs into this country reaching epidemic proportions, a number of southern states are now pooling their resources into a major counter-effort, using elaborate radio communications monitoring and dispatching. Both HF and VHF communications are employed.

From Robert (FL-012) and JAN (FL-010)
162.075 Nat'l Weather Service data exchange, Miami
162.500 FAA Hurricane net, Miami (Tests Tues. 9:30 AM)
169.025 Commerce Environmental Research Lab, Miami weather data
Robert and Jan would like to know if any members in Pennsylvania picked up Department of Energy frequencies during the Three-Mile Island incident. Please let me know, too!

It was interesting to note the item regarding pressure from Federal law enforcement agencies regarding the inclusion of the 406-420 MHz range on their scanners. Obviously, any tampering with the process of FCC certification of new equipment would be in direct conflict with free enterprise. However, both Regency and Electra have reported Treasury Department requests to avoid sensitive frequency ranges.

The frequency range 216-220 MHz bears watching. I have an intuitive feeling from the input from members that there might be things going on there. Please keep me approsed of any leads.

Remember, the success of <u>all</u> frequency columns depends <u>entirely</u> upon the active support of the membership. Surely, <u>you</u> have some frequency information you would like to share, haven't you?

See you next month!

From BOB (CA-CC-005): I would appreciate any information on U.S. Forest Service regions, channels and operational organization for the state of California.

☆ MILITARY ☆

Robert B. Grove, Editor

Send all ARMY, NAVY, COAST GUARD, MARINE and AIR FORCE (including military aircraft) frequencies and radio system details to: Robert B. Grove, Route 1-Box 156, Brasstown, NC 28902. Sensitive military frequencies will not be published.

Welcome to our new satellite editors, Bill Blomgren and John Coker. In observance of this new aspect of RCMA coverage, I thought it might be interesting to concentrate on some of the military communications satellites. In the future, Bill and John will be handling the bulk of satellite information. Some military satellites are receivable directly with scanners without external conversion. These are few and far between, however, and a serious listener must plan on elaborating his listening post a good bit.

The major military satellites presently in orbit, some of the earlier of which are gradually being deactivated, include: Air Force SATCOM (UHF and X-band); Defense Satellite Communications System (DSCS satellites are at X and S bands, also 7/8 GHz); Lincoln Experimental Satellites (LES series have UHF capabilities, as well as much higher frequencies); NATO (7/8 GHZ with telemetry on S-band); SKYNET (British Air Force, launched by US; UHF); COSMOS (Russian series...hundreds orbited. UHF); FLEETSATCOM (UHF, joint services for DOD portable/mobile use); MARISAT (US navy UHF).

Some of these satellites can be heard with no trouble at all. The enormous proliferation of Russian COSMOS satellites makes them an easy target for scanners. Most of them have a beacon telemetry signal readily heard on 150.000 MHz. Members often question that the "teletype" signal is that they hear on this frequency. Now they know!

Of particular interest to military systems buffs, the FLEETSATCOM will offer the most listening potential. A converter will be necessary, as operating down-links will be heard from 244 through 270 MHz. Communications are FM! So convert into an FM scanner range, not the AM aeronautical band. The remainder of the military UHF aeronautical communications which are non-satellite are, of course, AM, and would be converted into an AM receiver (such as the Regency Flight Scan:108-136 MHz, or Electra BC-220/300:118-136 MHz).

Some discrete frequencies for FLEETSATCOM are unclassified. In order to avoid interference with aeronautical AM users who normally use channel spacing of 100 kHz (Space Shuttle will use 296.8 and 259.7 MHz for example), FLEETSATCOM FM users space at two decimal places (252.05 MHz), or even three (244.045 MHz). This works out nicely for conversion into a conventional programmable scanner. Now, if only someone would come out with a broadband converter!

As members may expect, much of the voice communications is secure, using digital encoding. Routine voice communications are transmitted in the clear.

American Satellite Corporation is under a long term contract with DOD to build a series of earth terminals for both meteorological at tactical communications.

I would like to recommend a little-known periodical publication to those members with a strong interest in monitoring satellite communications. An excellent series of synoptic bulletins of space

science activities is published on a regular basis by Geoffrey Falworth, 12 Barn Croft, Penwortham, Preston PR1 OSX, England. Titles of some of his periodicals include: SATELLITE NEWS: MILITARY SPACE DIGEST; SATELLITE NEWS: SPACE OBJECTS DIGEST; and SATELLITE NEWS: SPACE OPERATIONS REVIEW. Send Geoffrey $.50 to cover his costs, and request samples in your field of interest.

And now, let's have a look at some frequencies sent in by members this month.

From DONALD (CO-002)

USAF ACADEMY POLICE	Colorado Springs, CO	163.4625
FT. CARSON MILITARY	Ft. Carson, CO	167.6875
PETERSON AFB SECURITY POLICE		163.5875
LOWRY AFB FIRE DEPT.	Denver, CO	173.5875
BUCKELY AFB FIRE DEPT.	Denver, CO	173.5875
PETERSON AFB FIRE DEPT.		173.5625

From ROBERT (FL-012) and JAN (FL-010)

138.150 Nike Missile sites interbattery communications, Miami (Pri)
138.870 " " (Sec)
139.380 " " (Pri)
141.480 " " (")
142.380 " " (")
143.340 " " (")
148.635 Nike "Hurricane Net"..non-tactical (Note: Change from May)
149.150 Homestead AFB maintenance "E-Net"; non-tactical

ARMY CORPS OF ENGINEERS, FLORIDA CIVIL WORKS NETS
163.4125 District net, Clewiston to Jacksonville HQ
163.4375 District net, Andytown to Jacksonville HQ
169.425 Clewiston and Everglades to Andytown
171.025 Andytown to Clewiston and Everglades
401.752 Satellite data access
401.782 Satellite data access
406.9375 Okeechobee to Yehaw Junction (Civil Works net)
407.2375 District relay, Okeechobee and Andytown to Clewiston
412.8375 District relay, Clewiston to Andytown
413.5625 District relay, Clewiston to Okeechobee

OTHER MILITARY LISTINGS
40.30 Florida National Guard
148.200 VIP Communications Support Net, Homestead AFB
148.500 " "

Don't forget to send in those frequencies! See you next month.

This is being tacked onto Bob's column by "THE" editor -- If anyone has any VHF/UHF Navy frequencies for the Norfolk, VA area, please send them in to Bob in response to a member's request so they can be published.

Miscellany

RCMA, P.O. Box 4693,
Riverside, CA 92514

From JAMES (CA-ST-001): I recently found a book in the library here. It is "Scanner-Monitor Servicing Guide" by Robert G. Middleton and is a Howard W. Sams publication. The book goes into a lot of detail and has schematic diagrams for several commercially available crystal scanners. It looks like a very good reference book.

"POLICE CALL, SOUTHERN CALIFORNIA DETAIL EDITION": The following is the mail order information for the above publication which gives many details about Southern California radio systems and frequencies. This info is being offered since a number of members living outside of Southern California have been requesting Southern California frequency information. Send $5.50 to: Chick Ryel & Company, P.O. Box 762, Woodland Hills, CA 91364. (Be sure to specify the Southern California Edition.)

Bob Grove, our "Federal Gov't" and "Military" editor, just had a nice four page article on scanning published in the 1979 "Radio Experimenter", which is probably available at most complete magazine stands. The article also includes information on how to convert a log periodic TV antenna to a high band monitor beam. Bob mentioned RCMA in the article which is already bringing in inquiries and new members to RCMA.

ED (IL-004) points out that there are two sister organizations within ANARC that should be mentioned, SPEEDX and WTFDA. He says, "These groups are the closest in interest to RCMA." The SPEEDX Utility Column is to frequencies below 30 MHz as the RCMA is to frequencies above 30 MHz. WTFDA, like RCMA, covers frequencies above 30 MHz but they emphasize reception of DX FM (88-108 MHz) broadcast stations and TV stations. The distances over which some TV and FM stations can be received is sometimes quite amazing.

(Editor's note: RCMA members who are interested in other listening type radio clubs should send for the list of ANARC affiliated clubs. Send a business-size SASE to ANARC, 557 N. Madison Ave., Pasadena, CA 91101. SPEEDX and WTFDA are both good clubs. For a sample copy of "SPEEDX" magazine send $1.00 to P.O. Box E, Elsinore, CA 92330, and for a sample copy of the "VHF/UHF Digest" (WTFDA's publication) send $1.00 to P.O. Box 202, Whiting, IN 46394.)

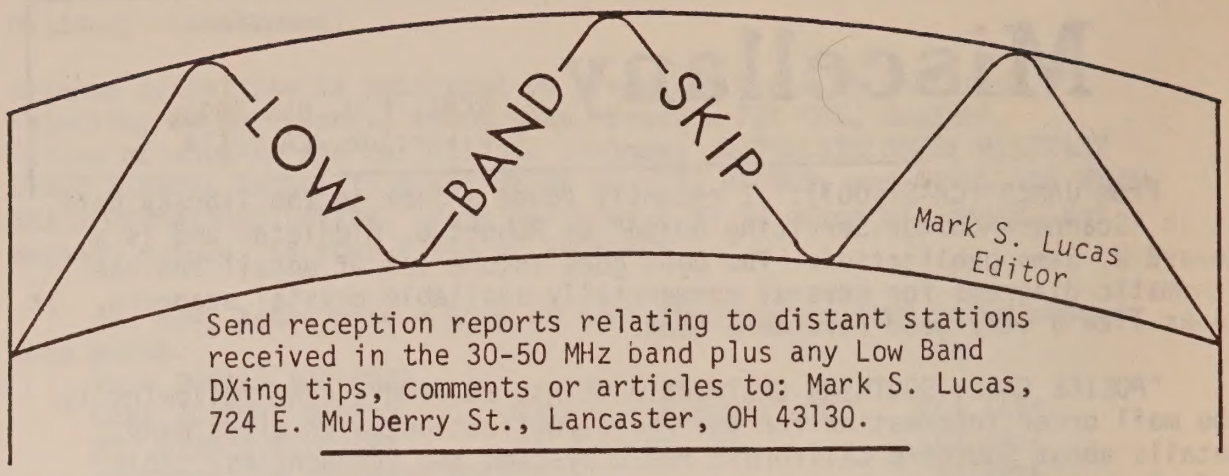
From BOB (NC-006): Does anyone know whether the ancient CW and AM HF allocations for police use are still in use in any area of the country? San Bernardino, Pasadena, Houston, and other large cities still hold active licenses on frequencies as low as the 1700 KHz range!

(Editor's comment: This is most interesting. If anyone has any ideas or info on this, please send it to the Newsletter, Riverside address.)

From ROD (ME-003): I ordered a BC-250 scanner through a Michigan outfit - Communications Electronics of Ann Arbor. The price as advertised in the March "Popular Electronics" ad of $269.95 was unbeatable. The speed with which the scanner was shipped was not. I ordered the set in late March, paying with a Banker's Cashier Check so as to avoid the "clearing" process of personal checks. After a month,with no scanner, I called the distributor who advised that the set would be right out. After a couple of weeks it did arrive. Anxiously I unpacked the set and found to my disgust that there was no power cord or car attachment. Another call to Ann Arbor and the accessories arrived four days later.

As for the reason for the long delay between receipt of check and order and the shipping, I received no satisfactory explanation. Apparently the check just sat around Ann Arbor for a few weeks before being sent to the bank.I caution other members about the company. Perhaps my experience was just an isolated case. It would be interesting to see if other members have similar stories, either bad or good, about ordering from mail order houses.

(continued on page 26, bottom)



Send reception reports relating to distant stations received in the 30-50 MHz band plus any Low Band DXing tips, comments or articles to: Mark S. Lucas, 724 E. Mulberry St., Lancaster, OH 43130.

Well, gee gang,was it something I said or did? Only two contributors this month! I KNOW that skip has been extremely heavy in this part of the country. And also I realize I myself am NOT the only RCMA member who listens to VHF-Low band. Did you know a cassette recorder can be a DXer's best friend? If you think you can not properly log all the Es as it "rolls in" (Editor's note:Meaning to start being received) then simply hook up that cassette recorder and tape some of it. Then simply play it back and jot a few observations to paper.

A prepared skip logging sheet is enclosed with this month's newsletter. It would be well advised to make a few photocopies of it if you plan to be a regular contributor. My thanks to both Iden Rogers and RICK (NJ-001) for collaberating on this form. LET'S HEAR FROM YOU TODAY!

From DONALD (CO-002): Frequency: 35.46 MHz Local Time: 2351 MST Date: 12 June,1979 My Location: Colorado Springs,Colorado They were speaking in Spanish. I do not have a clue to its origin. (Editor's Comments: Any RCMA member who can help Donald?)

From CHIRS (CA-OR-050): Here's a couple recent skip receptions; Frequency: 44.70 MHz Callsign: KKC 881 Verbal I.D.: "Pawnee", "Enid", "Lawton", "Muscogee" Service: Oklahoma Highway Patrol Local Time: 1150 PDT.

Frequency: 37.26 MHz "Choctaw Police Dept." Oklahoma. 1320 PDT

Frequency: 37.12 MHz Unknown repeater station "KBJ 509" Times were +2 from PDT. It sounded like a Sheriff or Marshall office. (Editor's Comment: Always try using 24 hour time clock as your time frame. In doubt? Simply add your local afternoon/evening time to 12!)

That's all this time. Since response this month wasn't the greatest since this column's inception, I will until further notice move my deadline back to the 10th of the month. Thus,it will give you more time to get your loggings in to Lancaster,Ohio.

I realize that the gasoline situation is not good. So all should be able to afford more time with our scanners on and programmed to VHF-Low skip. If you are receiving zilch skip,I'll even be happy to hear about your first skip reception or even your most exotic skip reception. It is YOUR column, I am merely typing what YOU are sending toward my way.

So, until next month (and a mailbox full of letters) 73.

Miscellany, continued from page 25

Radio Shack will be offering a new programmable next year. It will be an under-$200 unit, probably with aircraft as well as FM. For the time being, however, the PRO-2001 will remain their hot item.

BOB (NC-006)

Aircraft

Send private, commercial, firefighting and law enforcement aircraft frequencies of interest in the 108-136 MHz range and frequencies in other bands associated with airports and aircraft plus questions, articles, and tips related to aircraft monitoring to: P.O. Box 12434, Oklahoma City, OK 73157, (405)-943-2078. Please send all military aircraft frequencies and info to the "MILITARY" column.

DIRECTORY OF STATE AIRPORTS

Unknown to a lot of people, (self included) many states produce a directory of the airports contained within that state. Check with your state Aeronautics Commission, and ask for a directory of airports for your state. In many instances, the directory is free (such is the case in Oklahoma), and they will be delighted to send you a copy in the mail. Please report any successes or failures in your endeavors.

Once you have the directory, you will see such things as a list of all the commercial broadcast frequencies, FSS and weather bureau numbers and frequencies for towers, centers, VOR's and other navigational aids. This is a very useful publication to the serious aircraft listener.

CORRESPONDANCE

From Donald (CO-002): "MAST FREQUENCIES for FORT CARSON (Colorado Springs, Colorado)."

Channel	Frequency	Remarks
1	38.500	
2	38.400	
3	154.905	Emergency
4	155.160	Rescue

From Larry Mc Dermott (CA-SM-004): "MAST FREQUENCIES for FORT ORD (California), on 36.500 Mhz. Also, California Dept. of Forestry bomber (air to air) on 121.900."

From Dennis Werblo (OK-2): "MAST FREQUENCIES FOR OKLAHOMA MAST frequencies in use by Fort Sill, (in Lawton Oklahoma) is 41.050 Mhz. MAST is tied into AMCARE here in Oklahoma City. AMCARE is using 153.755 locally. MAST also ties in to the Oklahoma Highway Patrol (OHP) frequency - 44.700."

From Larry Smith (MI-001): "Enclosed is a list of Frequencies used by different centers outside the continental U.S."

San Juan Center (High Altitude): 263.0, 125.3
El Yunque - 279.6, 269.0. Grand Turk - 135.2
Mayaguez - 338.3, 360.6, 135.7, 134.3. Palomar - 285.5
Pico Del Este- 307.0, 125.0 St. Croiz - 290.4, 125.3

Anchorage Center

Annette Island	- 118.5	Barrow - 118.9	
Barter Island	- 120.6	Bethel - 125.2,	119.0
Bettles	- 124.6	Big Delta -	120.3

Aircraft (continued)

Biorka Island	- 126.6	Boswell Bay	- 123.8
Cold Bay	- 118.5	King Salmon	- 124.8
Kodiak	- 120.1	Juneau	- 118.8
Murphy Dome	- 124.6	Nome	- 118.5

Montreal Centre (127.85, 132.35, 134.4)

Chibougamau	- 134.9	Ottawa	- 133.4
Sherbrooke	- 124.8	Val-D'or	- 125.9

Toronto Centre (119.7, 127.0, 127.35, 127.6, 132.8, 133.6, 134.92)

Hamilton	- 125.8	London	- 119.4
North Bay	- 133.0	Sarnia	- 126.0
Stirling	- 123.9	Timmins	- 128.1

Winnipeg Centre (118.0, 119.7, 120.5, 134.4)

Brandon	- 124.4	Churchill	- 123.9
Kenora	- 124.0	The Pas	- 123.9 (Thompson)

Larry is a wealth of information on frequencies. He has a lot of frequencies for airports and centers outside the U.S. I hope I can continue to depend on him for more information. If you would like to write to Larry is address is:
Larry Smith (MI-001), 1223 Vinsetta Blvd., Royal Oak, MI 48067, phone (313)-398-9797

Again, thank you Larry, for your help in submitting information to this coloumn. Also a word of thanks to Donald (CO-002), and Larry Mc Dermott (CA-SM-004) for your help. I really want to encourage others to write. One last note, thanks to Bill Gillham (CA-CC-004) for your letter of encouragement.

This is being added to Wayne's Aircraft column by THE editor.

FOLLOWING AIRCRAFT BY RADIO

One aspect of aircraft listening that I truly enjoy, and others may also enjoy, is that of following aircraft by radio as they progress during their flights. You do not have to live near a medium or a large airport but it is helpful if you do.

The first communication a pilot makes on his radio when he is going somewhere is, of course, made while he is still on the ground. If the airport has a "clearance delivery" frequency and if it's a commercial airliner, for example (an IFR flight), the aircraft will show up there first. If the airport does not have a clearance delivery frequency, the aircraft will be heard on the "ground control" frequency first. During the initial communication on either of these frequencies the aircraft will state where he is going and the controller will give him basic directions for the course of flight plus related information. "Tower" and "departure control" frequencies are often given to the pilot at this time. The listener should jot down the aircraft's ID number and program in the tower and departure control frequencies so that when the "handoff" (changeover) to the next frequency is made the listener will be ready and waiting. (This is assuming, of course, that you have a programmable aircraft scanner.)

To supplement listening, Low Altitude and High Altitude Enroute charts can be used since they show "intersections" by name (invisible but real points in the sky determined by radio navigational aids) and "navaid" locations. When the course of flight is being discussed on the clearance delivery or ground control frequency, reference is often made to specific navaids and intersections. These can be spotted on a chart in advance.

It makes following the aircraft more interesting. (These charts can be obtained from pilot shops at or near smaller airports or from: National Ocean Survey, Distribution Division C-44, Riverdale, MD 20840. Ask for their catalog that lists aeronautical charts. The first time you see an Enroute chart you may scratch your head a little but with some study while listening to aircraft communications most of it will answer itself.)

Back for a moment to the clearance delivery and ground control frequencies --- Some airports which have both of these frequencies may, during periods of low activity, simulcast (simultaneously broadcast). That is, a single controller will handle both frequencies and both functions and can be heard on both of them simultaneously every time he presses the mike button. During these times, not all aircraft will initiate communications on the clearance delivery frequency but instead you may find some on the ground control frequency. So, in order to be sure to catch an aircraft that you might to follow, it is advisable to scan between these two channels during the times when simulcasting is being used. To find these frequencies in the first place one can refer to the "Airport/Facility Directory", the aircraft listener's version of "Police Call". (Info on obtaining this directory is also available from National Ocean Survey.)

Once the clearance delivery phase has been completed the aircraft will begin to taxi. At many airports taxiing can be difficult and must be directed by someone in the control tower who can look down on the situation and tell the aircraft where and when he can go. This is done by "ground control". Eventually, the aircraft will arrive at the end of the runway and be told to switch to the tower frequency. Naturally, you switch to the tower frequency right along with him. He will shortly thereafter receive permission to take off and be given any final details concerning his departure course. When the aircraft gets off the ground and near the edge of the airport's "control area" he will be asked to switch to the "departure control" frequency which you may already have from the clearance delivery phase. If not, it will be given at that time, such as "UNITED THREE FIFTY ONE CONTACT DEPARTURE NOW ON ONE TWO FIVE POINT FIVE". Unlike police communications, air traffic controllers are very accommodating about giving out frequencies --- it's a matter of safety and so much better for us, the aircraft listeners.

Departure control is one function of a radar facility. The radar facility will be watching all aircraft in a given area and assign directions (vectors) and altitudes to aircraft so that they will, hopefully, all miss each other. Departure control, therefore, controls aircraft (IFR flights) that are departing from airports. If the aircraft isn't going very far the same departure control controller on the same frequency may be the "approach control" for another (or the same) airport. The approach control controller will guide the aircraft by assigning vectors, altitudes, etc. so that the aircraft is close to the desired airport and often in line with the runway (but not always). When the aircraft gets close to the airport he will be asked to contact the tower and the frequency will be given. If you have been following the aircraft since the clearance delivery phase you will know where he will land and should have the tower frequency already looked up and programmed in, if it's within your listening range. The tower will give the aircraft instructions for landing which are necessary to coordinate all landing and departing aircraft at the airport. When he lands he will be asked to switch to ground control. In this case, the short flight went as follows: ground control, tower, departure control, approach control, tower and ground control.

If the airports were a little further apart, the departure control frequency for one airport would be different from the approach control frequency for the other airport and each would probably belong to two different radar facilities. If the two airports were still further apart and the defined areas of the approach and departure controls did not touch each other an additional controller would be involved. The

departure controller would instruct the aircraft to contact "Center" or, as in this part of the country, "Los Angeles Center". A Center is a large and elaborate radar facility covering a large area. The full name is Air Route Traffic Control Center (ARTCC) but it is usually referred to as "Center". The Center is responsible for aircraft when they are outside the control areas of the approach/departure controls. So, the flight we are talking about now would go through ground control, tower, departure control, Center, approach control, tower and ground control.

Each Center is divided up into sectors, each sector has a controller on a separate frequency. If the flight is longer still, the aircraft will have go through two or three sectors: .....departure control, Center, Center, approach control,..... In many cases, long flights are flown at higher altitudes because aircraft use less fuel and there is less congestion in the air. So, there are low altitude and high altitude sectors for Centers. It could go like this, ...departure control, low altitude Center sector, high altitude Center sector, low altitude Center sector, approach control..... If the flight covers several states, a number of high altitude sectors will be involved and more than one Center. Of course, only the first portion of a long flight can be monitored if you live near the airport of departure. The flight can be also monitored midway or at the terminal end depending on your location with reference to the flight.

With a quarter-wave ground plane antenna cut for the aircraft band and mounted about 35 feet above ground in the clear, you should, if you live on more or less level terrain, be able to receive aircraft to about 100 miles and sometimes further depending on conditions and the aircraft's altitude. You should use RG-8 or RG-213 coax if you can afford it and not RG-58 because more signal gets lost in the smaller coax. Ground stations sometimes can only be received up to 25 or 30 miles because they use low power and their antennas usually are not too high.

After the aircraft gets far enough away that you can no longer hear the ground station you must hope that the pilot will read back the hand-off frequency that is given to him by the controller so that you can program it in. If he doesn't, you will have to rely on charts and plotting the aircraft's position in order to predict what frequency he will show up on next. It's challenging and can be a lot of fun.

If you try to follow aircraft as described and you have difficulties or questions, write me a letter. I will try to answer in the Newsletter by way of the Aircraft column. If you are successful in following aircraft, I would like to hear about that also. IBR

THE editor's column, continued from page 3

From TONY (NJ-005): I'm very disturbed by the apparent apathetic attitude of some of our members. I've written to several members requesting information or in response to items in the CONTACT column, and received no reply. It appears that the same individuals submit items to the newsletter each month. There is no excuse for this. Part of belonging to a club is the interaction with other club members. Come on people! Let's communicate! I'm sure that you know something that I don't know and I know something that you don't know about monitoring. Let's swap information. We'll both be better off if we do.

(Editor's comments: Tony is right. This is a radio club and it was founded so that monitor listeners could join together to share ideas and information for the interest and enjoyment of all concerned. If someone writes to you, please be courteous enough to respond. Also, the odds of receiving a reply to letters is improved by enclosing an SASE. When you want a reply, enclose an SASE.)

THE editor's column, continued from page 30

SASE

While on the subject, "SASE" means self-addressed, stamped envelope. Besides enclosing an SASE when writing to other members, you MUST enclose an SASE when you wish a reply from club officers and editors. It doesn't matter if the communication relates to club business, the Newsletter, or is a personal, radio-related letter. PLEASE enclose an SASE if you wish a reply!

From BARRY (CA-SM-003): Federal Frequencies --- Members must be very careful even to mention Federal Frequencies; not only are you cutting your own throat, monitoringwise, but you never know where they may end up, perhaps in the wrong hands. A case in point: A Bay Area scanner store operator has taken on his own to sell over the counter a frequency list containing a lot of very classified information, such as DOJ, FBI, Secret Service, DEA, etc. So he makes a fast buck and we end up losing what it has taken us years to acquire. Some Bay Area Scanners Club members have approached the owner-operator about this practice and the possible security violations but to no avail.

I wonder how other RCMA members feel about this sort of thing? I think we all know just what this kind of practice leads to.... bad news for the rest of us.

From MICHAEL (IL-014): When a member is dropped and the membership number is reissued to a new member, it can be very misleading to other members, as to when that person actually joined, especially if the reissued number is a low number. Perhaps a letter A,B,C, etc. could be added to the membership number everytime it is reissued. For example : IL-014-A for the first reissue, IL-14-B for the second and so forth. This alphabetical system could ease much confusion in the future.

(Editor's response: I agree. Personally, I am not in favor of reassigning numbers, ever. Doing so can be confusing to the members and some members take some pride in having a low number. It can be an indicator of being a pioneer in the club. Reassigning old and low numbers to new members detracts from the status value of having a low number. What is done is done but I can bring up the issue at the next Board Meeting of reassigning numbers in the future.

In case anyone has wondered, RCMA membership numbers are not some kind of phony call letters as issued by some other groups, they are serious business. Our membership list and mailing labels are done by computer and RCMA numbers are an important part of this computerized system.)

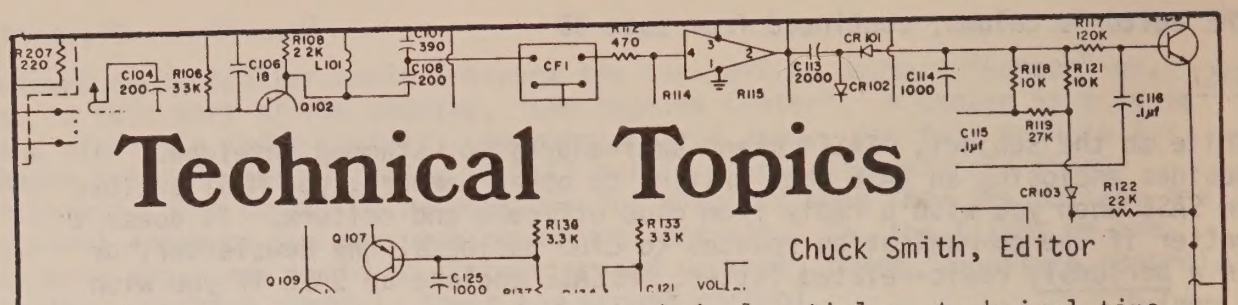
DEADLINES

All publications have deadlines and this one is no exception. Each regional and special interest editor has his own deadline. The overall Newsletter deadline must be met by editors and members submitting material to the Riverside, CA address. Material must be received in Riverside by the following dates:

SEPTEMBER ISSUE BY AUGUST 24	OCTOBER ISSUE BY SEPTEMBER 20
NOVEMBER ISSUE BY OCTOBER 19	DECEMBER ISSUE BY NOVEMBER 23

As of July 24, 1979, the RCMA had 779 members in 44 states and 4 foreign countries. (The breakdown of members by state and country will appear whenever there is room in the Newsletter.)

The New Member list will appear in the September issue.



Technical Topics

Chuck Smith, Editor

Send all equipment reviews, technical articles, technical tips and questions on such subjects as receivers, antennas, preamps, accessory equipment, repeaters, links, tones, scramblers, non-voice data transmissions or even computer applications for monitoring to: Chuck Smith, 4901 Heil Ave., #3C, Huntington Beach, CA 92649.

As of the last mail delivery, eight hours prior to turning over the completed Newsletter, Chuck's column had not arrived. Perhaps next month's column will be extra large. I, THE editor, am offering a few items.

UHF BEAM ANTENNAS

It is reported that the KLM-390-420-13 is still available but must be special ordered. It covers 390-420 MHz continuously and has 13 elements.

Larsen Electronics (P.O. Box 1686, Vancouver, WA 98663, 206-573-2722) makes four UHF beams:

YA-1-406	406-420 MHz
YA-1-450	450-470 MHz
YA-1-470	470-490 MHz
YA-1-490	490-512 MHz

According to their literature these antennas have a bandwidth equal to the above specified ranges, VSWR less than 1.5 to 1, 50 ohm impedance, forward gain of 11 db, front to back ratio of 23 db, a horizontal beam width of 42 degrees and each retails at $82.50.

Cushcraft offers:

P456-6	450-460 MHz	6 elements	$45.00
P467-6	450-470 MHz	"	"
P456-11	450-460 MHz	11 elements	$60.00
P467-11	460-470 MHz	"	"

Their literature states a bandwidth of 10 MHz, forward gain of 10 db for the 6 element and 12 db for the 11 element models and a front to back ratio of 20 and 24 db respectively. Other more expensive models are available.

LOW BAND BEAM ANTENNAS

A couple of inquiries have been received regarding low band beams. I just discovered that Cushcraft (P.O. Box 4680, Manchester, NH 03108) offers a 2 element beam for $160.00 (list) and a 3 element for $190.00 (list) for use in the 30-50 MHz band. If ordered, these antennas would no doubt be cut and tuned to a specific frequency in the band and would have a narrower bandwidth than a high band beam, for example. Converting a CB beam might still be the least expensive but slightly more complicated way to go. Also, KLM (17025 Laurel Rd., Morgan Hill, CA 95037, 408-779-7363) offered and may still offer a broadband, 15 element log periodic beam that covers the entire range of 35-130 MHz. It cost about $160.00 two or three years ago.

If any of you are using low band beams would you please write in describing your antenna and how well it works.

If anyone wants to know a simple three-step modification to allow the Regency DFS-5K to tune down to 400 MHz (this will require that the set be retuned for maximum sensitivity), send an SASE to: G. DU BOIS, 10048 NE Campaign, Portland, OR 97220.

Technical Topics (continued)

EXTRA RESPONSES ON LOW BAND

I thought I'd try my hand at a little low band DXing with my BC-250. After listening for awhile, I was becoming alittle confused since non-federal government transmissions were appearing in the federal portions of the low band. Also, it seemed that I was receiving some stations in two places. After experimenting around, I found that the low band stations could indeed be received in two places and quite predictably. Four examples of local stations received were:

Actual Frequency of Transmission	Readout of Undesired Response	
33.64	33.02	San Bernardino Co. FD
35.46	33.93	Mobile telephone
39.14	35.77	Los Angeles Co. Sheriff
42.54	37.47	Highway Patrol

After playing around with the numbers for awhile I derived equations that express the relationship between the desired and undesired responses.

Let A equal the actual frequency of transmission.
Let U equal the frequency readout of the undesired response.

$U = \frac{A+32.4}{2}$ and when solved for A, $A = 2U - 32.4$

It was an entertaining puzzle and, needless to say, my BC-250 went back for a visit to Indiana.

F & RS - Southern CA, continued from page 15, last minute tip

Received info that the Los Angeles County Sheriff is to test UHF frequencies in Lakewood in early August, 470.6875 ch 1, 470.7625 ch 2, 470.8875 ch 3.

MARKETPLACE continued from page 20

FOR SALE: CRYSTALS, HC18/U type holder, 3rd overtone. Fits Sonar, Lafayette, Fanon, Hy-Gain, etc. radios. Following frequencies: 37.38, 44.62, 44.66, 44.78, 44.98, 45.90, 150.995, 151.115, 151.985, 154.04, 154.16, 154.43, 154.445, 154.65, 154.77, 155.205, 155.37, 155.415, 155.46, 155.535, 155.55, 155.61, 155.85, 155.985, 158.82, 159.21, 160.47, 161.04, 161.40, 453.375, 453.40, 453.55, 453.65, 453.80, 460.075, 460.5, 470.3125, 470.6625, 470.8625, 470.8375, 471.0875, 476.3625, 454.100 MHz. Price: $2.50 each postpaid. 5 or more: $2.00 each postpaid. Send postal money order or stamps, please. TONY LOVING (NJ-005), 231 Kinderkamack Road, Westwood, NJ 07675.

FOR SALE: Craig 4 channel handheld scanner, UHF (450-512) only. With antenna, carrying case, AC cord and charger, $75.00. *** Regency-type crystals, $4.00 or trade: 42.40, 45.96, 154.43, 154.95, 158.22, 161.76, 450.55, 455.15. ROBERT STOFFEL, 1337 West Ave., Fullerton, CA 92633.

WANTED: Regency-type crystals: 33.70, 33.82, 42.50, 154.60, 158.91, 450.15, 450.75 and 470.3625. ROBERT STOFFEL, 1337 West Ave., Fullerton, CA 92633.

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RUSH -- ITEMS OF NEWS VALUE

The Radio Communications Monitoring Association is a radio club for persons interested in listening to two-way communications above 30 MHz as a hobby. RCMA was founded in May 1975 and is a Full Member of the Association of North American Radio Clubs (ANARC).